



SAN BERNARDINO MICROWAVE SOCIETY, Incorporated

FOUNDED IN 1968

A NONPROFIT AMATEUR TECHNICAL ORGANIZATION DEDICATED
TO THE ADVANCEMENT OF COMMUNICATIONS ABOVE 1800 MC.

W6IFE Newsletter

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At the 8 **January 2004** meeting of the SBMS, Mike Collis, WA6SVT will talk about "ATV on microwave". The SBMS meets at the American Legion Hall 1024 Main Street (south of the 91 freeway) in Corona, CA at 1900 hours local time on the first Thursday of each month. Check out the SBMS web site at <http://www.ham-radio.com/sbms/>.

This newsletter is out early to avoid folks from coming to a 1 January non-meeting.

SBMS meeting parking- We have become a great number of members at meetings. We park next to the church in the adjacent lot or on the street and or in the lot across the street. Across the street the sign on the building shows: 1025 Main Street. MAIN STREET BISTRO. The sign on the parking lot says: CLIN CHIROPRACTIC CARE Dick, WB6DNX

Last Meeting. Dave, WA6CGR presented a video show of places to go for contest sites. Enclosed is a printout of the Glenn, KE6PHZ list of directions on how to get to the sites. Thanks Dave for the picture show. The SBMS 2 GHz and Up Contest was moved one weekend to 22/23 May to slide around the Dayton event. The date will be revisited next year to see if other activities need to be avoided. Chuck, WA6EXV will be generating the certificates for the winners of the 2003 contest. Welcome to visitor Keith N6ORS of Corona and to new member

Michael Aust, WB6DJI of Torrance. The 2005 Microwave Update is set to be jointly administered by SBMS and the San Diego Microwave Group. Dave, WA6CGR will be sending a thank you note to the American Legion for their letting SBMS use there building for meetings. A 47 GHz source party at SDMG was discussed. When enough people have the basic oscillator ready a building party will be set up in San Diego. The idea is to get to 47.088 GHz. Whether that be 23 GHz or 13 GHz at sufficient power to drive a diode mixer/ antenna unit made from Qualcomm board diodes. 27 people present.

Activity reported at the December SBMS meeting- Dick, WB6DNX made a dual band feed for 10 and 24 GHz; Pat, N6RMJ built a 10 GHz DB6NT unit; Larry, K6HLH moved the TWT bodies to top of his tower and placed the power supplies at the bottom; Dave, WA6CGR (see lab data log); Mike, W6YLZ built a 2 mtr to 10 mtr converter; Gary, W6KVC was out fighting fires in the San Bernardino Mountains; Dick, K6HIJ is back working on the 24 GHz waveguide switch, and is playing with microwave oven supplies; WA6YGB did some 1296 MHz work; Chip, N6CA did some GPS antenna pattern work and made modes to a IC706; Wayne, KH6WZ built some stuff at the lab; Larry KG6EG rebuilding his 10 GHz radio; Jeff, KN6VR did some mounting of antennas; ; Jerry, N7EME has a working 1152 synthesizer and is working on ones for 5112 and 4986 MHz; Dennis, WA6NIA is adding a TWT to his 10 GHz rig and a 1 watt amp to his 24 GHz rig; Doug, K6JEY has waveguide relay for both 10 and 24 GHz now; Ken. W6DTA built a round dish up; Chuck, WA6EXV built a 1296 MHz power amp and has a bunch of dishes to get rid of; Bill, WA6QYR is still building his Pcom 24 GHz rig; Keith, N6ORS built a 1296 MHz amp and rebuilt an HP 61X generator using MMIC for oscillator; Frank, WB6CWN has an Analog Devices evaluation board for 7 GHz and found a ebay 9 GHz oscillator that will tune to 10.3 GHz; Mel, WA6JBD built a TVRO head tester; John, KJ6HZ picked up a waveguide switch.

Scheduling:

24-26 January ARRL January VHF Sweepstakes

5 February John Hoot, "Astronomy and microwaves".

4 March TBD

1 April TBD

12-14 June ARRL June VHF QSO Party

26-27 June ARRL Field Day

7-8 August ARRL UHF Contest

21-22 August ARRL 10 GHz and Up Contest

11-12 September ARRL September VHF QSO Party

18-19 September ARRL 10 GHz and Up Contest

"Wants and Gots for sale"

Want Manual for Boonton 190 Q-meter and a source of 1N26 (coaxial) diodes Dick Kolbly K6HIJ 760-253-2477

Want WR-42 waveguide relay Dave WA6CGR 909-318-5154.

Want Primestar 37" offset dish, waveguide relay for 24 GHz, and a 24 GHz isolator- Miguel W6YLZ 818-349-8525

Want- noise source- John KJ6HZ 909-683-1434

Want MACOM 10 GHz dish N6RMJ 661-264-1978

For Sale Systron Donner Spectrum analyzer 10 MHz to 12.4 GHz in excellent working condition has manual
\$750 Jerry N7EME 949-713-6367

November Activity in The WA6CGR Laboratory &endash;

WA6CGR

Snowflake tunes the 10GHz amplifier (TWTA solid-state replacement amp from ebay) for KH6WZ. The amp produced 8-plus watts output, then no watts output (a microscopic coupling capacitor shorted in the tuning process). Repaired microscopic coil and final transistor. Yes, repaired a transistor: Opened the device package, and removed the wire bonds going to the burned-out transistor die, saving the "good half." After the repair, the amplifier does six-plus watts output.

New final transistor installed in the KH6WZ PA. The Class A amplifier does 11-plus watts output, draws 6.8A at 12VDC, with &endash;6dBm input.

Tunes KE6EG's amplifier for 10GHz: Microwave Solutions Model MSH-7609602-AW, Serial 141 D/C 9812. 14 &endash; 14.5GHz. Discovers the amplifier does a full watt without tuning. Final results: 32dB gain, or 1.25W output with 1dBm max. input, supply voltage 12VDC at 1A.

Tektronix 2465B scope now displays X-Y input (CH1 must be in OFF position). Instructions incorrect.

Installed omni-directional slot antenna outside on tower.

HP Z3816 GPS-disciplined clock/10MHz reference system installed in lab.

Updates PDA with new software/operating system.

Flush actuator lever repaired in Mens' room toilet.

KE6HPZ

Video project (checked camera)

Repairs "old" X-band radio, PLL on loaner rig, tuned W5LUA pre-amp

W6YLZ

Completes 2m-10m transverter (works)

Begins DB6NT 10GHz transverter kit

N6RMJ

Also begins DB6NT 10GHz transverter kit, receives an EME pre-amp for 10GHz, completes 2m-10m transverter (works)

Snowflake tunes 10GHz amplifier from eBay. 1-plus W output

Lazarus converts from 250mW to 1.2W at waveguide switch (removed Qualcomm PA)

KC6QHP

Calibrates GPS-locked oscillator, did some 47GHz LO work

Verifies operation of 24GHz system

KH6WZ

Repaired T/R switching between IF radio (FT-847) and amplifier. Used small DC relay to switch amplifier and transverter (DEMI 10GHz).

Received 10GHz amplifier (SSPA) from ebay: 10W

Modified WR-90 switch (replaced 6-pin Cannon connector with 9-pin D-sub connector).

Building N6CA Time Delay Generator for system sequencing.

Packaged surplus 2-in x 2-in 10MHz Qualcomm TCXO for PLL reference, adds resistor pad to attenuate output suitable for the JWM 1152 PLL unit. The 10MHz source includes a built-in gel-cell and Anderson Power Pole for external power. The 1.5mAh gel-cell lasts at least four days.

Integrated JWM 1152 PLL synthesizer into Morpheus, needed DC filtering for the PLL unit to work properly. Frequency is now stabilized.

10 GHz Microwave site-driving directions 12/2003

Goleta State Beach-- This location has a good shot to the Baja gang. It is DM04BK, and we parked right in the parking lot of the Goleta State Beach. In the Santa Barbara area, take the 217 Highway south from the 101 Highway, about 1.9 miles. Get off the freeway where it says Goleta State Beach, and cross over a bridge and you will be entering into the beach parking lot. Turn right, and go about a $\frac{1}{2}$ of mile down the parking lot till you find a place that has no trees in the way, and shoot over the water. (N34 25' 0.6" W119 49' 58.2")

Summerland (Santa Barbara) Lookout park-- To get to this location, get off at Evans Street in Summerland, near Santa Barbara. You can try working from the park which is on the south side of the freeway, but there are trees in the park, and we found that parking lot was full. For those that have to work out of the back of their trucks this place didn't work. So, we found a better spot, still on the South side of the freeway, just .2 miles east of the park. Get on the southbound on-ramp to the 101 freeway, which runs beside the freeway. Right before the on ramp enters the freeway there is a small road the will break off to the right. This is Finney St, and it goes over the railroad tracks and goes into a parking lot. From the parking lot it goes east down the hill. We just pulled off the side of the road, and worked Baja. This spot is DM04ek (N34 25' 09.1" W119 35' 46.1") I used an 11 element 440 beam to get into Signal peak, or one of the San Diego machines.

Ventura (Grant Memorial Park)-- To get to this location from North bound 101 get off at California St. There is no South bound off ramp for California St. Get off of the next exit (Harbor blvd, or Seaward Ave) and get back on the North 101 freeway and get off at California. Head up California (N) till you hit Poli Street (California Tee's into Poli). Turn Left onto Poli, and turn right on the next street, which should be very small street. (Brakey St). It winds through some houses, and climbs up the hill. You will come to a four-way intersection, of small roads on the hill. Take the left or lower road a couple of hundred feet down the road, to a turn out. The location is DM04ig (N34 17' 05.3" W119 17' 41.3") at 300 ft above Sea Level.

Point Mugu -- The operating position of Point Mugu is right next to the very huge rock. On the east side of the Rock there is a parking lot. It is on the south side of the road. So you can't turn into the parking lot going north bound on the 1. Only the southbound traffic can turn in to the parking area. So if you are going North on the 1, continue pass the rock, and turn into the parking lot on the North-west side of the rock, and come out of the parking lot and head south on highway 1 to go around the rock, and go to the other parking lot. The location is DM04lc (N34 05' 13" W119 03' 43") I have found that this location is blocked to DL29cx, and DM10xl by Catalina Island.

Point Dume --Point Dume itself has a bunch of No Parking Tow away signs. So I set up on the South side of the road a couple of miles North-West of Point Dume. There is a large dirt pull off that worked great. Its location is

DM04na (N34 02' 09.8" W118 51' 27.4") I was also able to work people on PV across the tip of Point Dume. Catalina Island gets a little bit in the way when the Baja guys are in DL27.

Las Floras Canyon-- Somewhere near Las Floras Canyon Road at Highway 1. Stay in the Floras area. If you go too close to Malibu, you will be below 10 miles to the Point Dume location. If you go too close to Topanga Canyon you will be shooting through PV.

PV North and South -- The easiest way to get to Palos Verdes is to come in from the 110 Freeway. Get off at PCH (Pacific coast Highway) Highway 1(N33 47' 26.1 W118 16' 55.0). Go West 3 miles on PCH, and turn left on to Crenshaw (N33 47' 31.6" W118 20' 00.6"). Go 3.4 mile on Crenshaw up the hill. Turn right on to Crest (N33 46' 07.4" W118 21' 50.1"). Go 1.6 miles on Crest. Go through Hawthorn Blvd, 150 feet. Pull off to the side of the road, and this spot works Frazier and other north locations. Its location is DM04ts (N33 45' 41.2" W118 23' 39.8), and it is 874 ft above Sea level.

For the South location, Turn around from the North location, and turn right (South) and go 1 mile down Hawthorn Blvd. The location is on the south side of a divided road, so pass up the location, and make an U-turn at the Salvation Army driveway. Head up the hill to the vista point. There is parking for about 4 cars here. This spot points south to San Diego, and Baja very well. This location is DM04tr (N33 44' 53.3" W118 23' 39.4"). It is 535 FT above Sea Level.

Huntington Beach -- Huntington Beach works well to Baja. During the middle of the day it might be hard to find a parking spot. Pacific Coast Highway (Highway 1) runs along the beach for miles. So if you can get into one of the parking spots, just point out to Baja. Metered parking DM03xq. The Huntington Pier is DM03xp (N33 39' 17" W118 00' 16.2"). Take Beach Blvd south off of the 405 about 5.8 miles to get to PCH.

Signal Hill North and South -- To get to Signal Hill you have to exit the 405 Freeway at South Cherry exit. Head south on Cherry Ave .8 miles and turn left onto Skyline drive, and head up the hill. When you get to the top of the hill, and you can turn left into the park at the top. You can work east (Heaps) and North (Frazier) and west up the coast to Ventura and beyond. To work San Diego and Baja, you pass by the park and continue to Southward about .3 miles on Skyline, to a dirt field on the right, (N33 47' 54.7" W118 09' 34.1") DM03wt

El Segundo (North side of Hill top park) --To get to this park, get off of El Segundo Blvd, and head west about 1.4 miles. Turn right on Sepulveda Blvd (Highway 1). Go .2 miles and turn left on Grand Ave. Go .6 miles to Maryland St, and turn right. Hill Top Park, is on the left and go down the street 700 ft to the public parking structure on the left. Go up on the parking structure. Go to the parking locations that are marked on the map, and point between the trees.

This is the highest point that you can get to in El Segundo at a high altitude of 176 ft, plus the height of the structure. The only thing in the way from this location is piece of PV that is 250 ft high. The location of the structure is N33 55' 14.7" W118 24' 25.1"

Highway 2 overview (La Canada) -- From the 210 Freeway you will exit Highway 2 Angeles Crest Highway. This is National forest area. This area requires daytime headlights, and you will get a ticket for not having them on. Be aware that the rangers will write you up for having a battery out in the open, because of fire danger. So leave the battery in the vehicle, and use something else heavy to keep the tripod from blowing over. To get there, head North up the hill 2.5 miles and you will see a large dirt pull-off on the right. It has an elevation of 2000 ft, and it talks south. But lower Baja locations were weak to this location. You have a large mountain right behind you so you would have to do a bounce shot to get anywhere else. DM04vf (N34 13' 41.3" W118 11' 09.6")

De Soto and 118 Freeway --It is located just north of the 118 Freeway and get off at De Soto Ave. It has talked to both the closer and farther away Baja locations. Just find a high spot above the freeway DM04qg (N34 16' 32" W118 35' 17") around 1300 ft elevation.

Secret site 51 (Loop Canyon)-- Secret site 51 is a great spot for talking all over the LA Basin and much south. It is located at (N34 21' 13.4" W118 24' 58.4") DM04ti at an elevation of 3918 feet. It takes about 30-40 minutes to

get up there, from the 5 and 14 highway spilt. To get to there, get on the 14 freeway (3.3 miles) and get off at Placerita canyon road. Turn right, and go south-east (5.1 miles) on this road till you hit Sand Canyon Road (N34 22' 51.8" W118 24' 48.4"). Turn Right on Sand Canyon road for 2.9 miles up to Bear Divide (N34 21' 35.1" W118 23' 33.1"). Turn right, and go up the road (3N17) (2.9 miles). You will come first to Contractors point (repeater site). Continue down the road 1 mile to Fire camp 9. Drive slowly through the camp, and go .4 of a mile up the hill, to the repeater site. Park on the side of the road about 100 ft down from the gate at the repeater site. This will give you a clear shot at Mexico, and a clear shot at Frazier. If you have a portable rig, you can walk up to the top of the hill and have a 360-degree view.

Whitaker Peak-- Whitaker peak is close to the 5 freeway, and it takes about 10 to 15 minutes to get up there off the freeway. It has a good shot South. It doesn't have a shot north. You can do a bounce shot to Frazier off one of the hills to the east. It is located at (34' 56.2" 118 deg 43' 08.8") at 3646 ft. It is between Castaic Lake and Pyramid Lake. To get there going north on the 5 freeway, get off at Templin Highway (N34 34' 20.8" W118 41' 27.6"). Go under the freeway and head north about 2.4 miles on the old road, running beside the freeway. On the left you will see a small one-lane road. It is labeled 6N53 (N34 35' 05.6" W118 42' 56.7"). If you are going south on Highway 5 you can get to the old road, by get off at the Brake inspection area. Just at the end of the area, were the road is about to get back on the freeway, there is a little road that will turn off to the right (N34 35' 03.2" W118 42' 36.8") that will take you to the old road, in a few feet. Turn right and you will be at the 6N53 in a _ of the mile. A few feet up the 6N53 there is a fork in the road. Take the left fork and start heading up the single lane that is a somewhat asphalt road. This road is about 1.8 miles long. You will have a microwave repeater site in front of you, and a Gate in front of you. Look behind you on the ridge and you will see a small dirt road running the ridge. Run up the ridge, about a _ of a mile to a high spot. This is room for about 2 trucks. You will have to do a couple point turn, to turn around, to come back down the hill.

Any changes or additions to these locations are greatly welcome.

Glenn Allen KE6HPZ - Ke6hpz@ham-radio.com

Announcement for 2GHz and Up Contest

San Bernardino Microwave Society Announces----The 2GHz and Up Contest

In the spirit of stimulating more activity in the microwave bands, the San Bernardino Microwave Society (SBMS) members came up with the 2GHz and Up Contest. The contest period is May 22 to 23, and runs for 24 hours. This is the weekend after the Dayton Hamvention(r).

This contest should encourage activity and level some of the microwave contest playing field. The contest would involve activity from 2GHz and up, and center around club activity. Members tally up their scores and add them up with other members' scores to make up a Club Score. The final score is then submitted in one of three categories based on club size.

For the purposes of this contest, you can make up a club of two and call yourselves whatever you like. (However, we don't encourage names that may not appear in print). This is not meant to break up a large club into 25 small clubs, for example, but rather to give isolated stations, roving groups and others a chance to win in a special category.

For instance, several SBMS members have extensive roving stations on multiple bands. Should they enter as a separate club or should they be a part of SBMS? We felt that ordinarily if you are a member of an established club you should enter under that club name. However, if you are not a current member of a club, either join one or start your own. Minimum club size is two members/operators with separate stations.

The contest rules appear below. This is still a very new event and we look forward to your comments to improve it. For more information, contact Pat Coker, N6RMJ, 40916 179th Street, Lancaster CA 93535, or e-mail: n6rmj@direcway.com

2GHz and Up World Wide Club Contest

Sponsored by the San Bernardino Microwave Society

1. Object

Worldwide club groups of amateurs work as many amateur stations in as many different locations as possible in the world on bands from 2GHz through Light.

2. Date and Contest Period

The weekend after the Dayton Hamvention(r). The 2004 dates for the 2GHz and Up Contest are May 22-23, 2004. Operations take place for 24 hours total on the contest weekend. The weekend begins at 6AM local Saturday though 12 Midnight local Sunday. Listening times count as operating time. Times off must be clearly indicated in the log.

3. Club Entry Categories

Clubs will be divided into three categories by number of active members

Small = 2-10

Medium = 11-50

Large = 51 and more

4. Exchange

Six-character Maidenhead Locator (see April 1994 QST, p 86 or www.arrl.org/locate/gridinfo.html). Signal report is optional.

5. Miscellaneous

Scheduling contacts is both permissible and encouraged.

Stations are encouraged to operate from more than a single location. For purposes of the contest, a change of location is defined as a move of at least 16 km (10 miles). A station may be worked again on each band for additional credit by either end of the contact after moving to a new location.

Contacts may not be duplicated on the second day (that is at least one end of the QSO must be from a different location).

Contacts must be made over a minimum distance of 1 km (0.62 U.S. statute/0.94 nautical miles).

A transmitter used to contact one or more stations may not be used subsequently under any other call during the contest period. The intent of this rule is to prohibit "manufactured" contacts.

6. Scoring

Distance points: The distance in km between stations for each successfully completed QSO. One point per kilometer (eg.,10km is 10 points).

QSO points: Count 100 QSO points for each unique call sign worked per band. Portable indicators added to a call sign are not considered as making the call sign unique.

In making the distance calculations, a string (or ruler) and map may be used. However, calculations by computer program are preferred. Several such programs are available, including a BASIC program listing in The ARRL World Grid Locator Atlas. For purposes of making calculations, stations are defined as being located in the center of the 6-character locator sub-square (most computer programs make this assumption).

7. Multipliers are based on power output

* 1mW to 5mW: 3x

* 6mW to 5W: 2x

* 5.5W and up: 1x

Once you designate your power class, you cannot change it to get larger multipliers. For example, if you start the contest with a 5W rig, and the amplifier breaks, making your power output 2mW, you must calculate your score with a 1x multiplier, not a 3x multiplier.

You can have a different power level for each band.

For example, K6ODV is part of a club called The SC6MS, which consists of K6ODV and N6RMJ. At the end of the event, K6ODV and N6RMJ send in both logs with a summary sheet, simply combining the total score from both operators to enter their club score.

Here is an example of the scoring for this contest:

K6ODV uses 20W to work N6XQ on 2GHz, 126km distance ($20W = x1$) = 126 points

K6ODV uses 4.9W to work N6XQ on 3GHz, 126km distance ($4.9W = x2$) = 252 points

K6ODV uses 5W to work N6XQ on 5GHz, 126km distance ($5W = x1$) = 126 points

K6ODV's 2GHz amplifier blows up, and the rig puts out 2mW, but he makes a QSO with WA6CGR anyway, at a distance of 21km. Note the multiplier still reflects the use of high power - the 2GHz category he chose to enter at the beginning of the contest ($20W \times 1$) = 21 points

There are a total of 4 unique calls, at 100 points each for a total of 400 points

Total Unique Calls per band (400) + Total QSO Points (525) = 925 total score for K6ODV.

K6ODV adds this 925 to N6RMJ's total to come up with the Total Club Score.

All scores are to be submitted to the SBMS Contest Committee as a club total. No individual scores will be accepted for this competition.

Send entries no later than 30 days after the contest to be considered.

Send contest logs via snail-mail to SBMS Contest Committee, Pat Coker, N6RMJ, 40916 179th Street, Lancaster CA 93535, USA

Scores will be posted on the SBMS web page at <http://www.ham-radio.com/sbms/>

Winners in each of the club categories (Small, Medium, Large) will receive a certificate, suitable for framing



(above) Kurt, K6RRA had to check out the freebees at the November meeting. One never knows what will show up at a meeting. Boxes of trash or treasures appear from time to time.

The San Bernardino Microwave Society is a technical amateur radio club affiliated with the ARRL having a membership of over 90 amateurs from Hawaii and Alaska to the east coast and beyond. Dues are \$15 per year, which includes a badge and monthly newsletter. Your mail label indicates your call followed by when your dues are due. Dues can be sent to the treasurer as listed under the banner on the front page. If you have material you would like in the newsletter please send it to Bill WA6QYR at 247 Rebel Road Ridgecrest, CA 93555, bburns@ridgecrest.ca.us, or phone 760-375-8566. The newsletter is generated about the 15th of the month and put into the mail at least the week prior to the meeting. This is your newsletter. SBMS Newsletter material can be copied as long as SBMS is identified as source.

San Bernardino Microwave Society newsletter

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USA